

the proportion of patients treated for RLS in a large claims database. **METHODS:** We identified patients with at least one RLS diagnosis (ICD-9 333.99) between 1999 and 2003 in Medstat's MarketScan Commercial Claims and Encounters database of de-identified insurance claims from employees and dependents. We estimated treated RLS by calculating the proportion of patients in the database with a first-time RLS diagnosis (incidence) and with an RLS diagnosis anytime (prevalence). **RESULTS:** Incidence of RLS treatment increased slightly each year, from 0.3402 per 1,000 persons in 1999 to 0.4494 per 1,000 in 2003. Prevalence also rose, reaching 0.5414 per 1,000 in 2003. Prevalence rates per 1,000 in 2003 by age group were: ages 1–17, 0.0330; ages 18–34, 0.1845; ages 35–44, 0.5848; ages 45–54, 1.0049; and ages 55–64, 1.3069. Prevalence for women per 1,000 was 0.6576 compared to 0.4126 for men. US geographic regions with the highest rates were North Central (0.6842) and South (0.5686), with lower rates seen in Northeast (0.4074) and West (0.4172). Higher rates of RLS (1.8621 vs. 0.3259 per 1000) were found among patients who had any characteristic that put them at “high risk” for RLS (anemia, end-stage renal disease, diabetes, rheumatoid arthritis, pregnancy or SSRI use). **CONCLUSIONS:** Rates of treated RLS were higher among older patients, women, and those with “high risk” factors, consistent with previous research. Compared to RLS prevalence estimates from population-based studies, rates were low in our sample. Additional research may help to understand the large differences in these prevalence estimates.

PNL3

HOSPITAL LENGTH OF STAY ASSOCIATED WITH ANTICONVULSANT UTILIZATION BY PATIENTS WITH SEIZURE DISORDERS IN THE U.S.

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OBJECTIVES: Comparing length of stay by anticonvulsant therapy may be the first step to identifying adverse events associated with treatment as well as treatment effectiveness. This study attempts to determine the association between the hospital length of stay and the use of anticonvulsants by inpatients with seizure disorders. **METHODS:** A cohort of 126,362 patients admitted to U.S. hospitals from July 1, 2004 to June 30, 2005 with a diagnosis of seizure or epilepsy was constructed using data from Premier's Perspective Comparative Database. Anticonvulsant use was tracked throughout each patient's hospital stay and patients were categorized by drug into carbamazepine, clonazepam, divaloprex, fosphenytoin, gabapentin, lamotrigine, magnesium, oxcarbazepine, phenytoin, topiramate, valproic acid, levetiracetam, and other anticonvulsants groups. Descriptive statistics including demographic characteristics and drug utilization were reported for the sample. Mixed regression models were used to control for selection bias due to patient clustering within hospitals. The model observed the impact of anticonvulsant monotherapy by drug on length of stay. **RESULTS:** Mean length of stay for non-users were 5.63 (SD = 9.02) and drug users ranged between topiramate users with 5.42 (SD = 6.20) and magnesium users with 12.99 (SD = 18.27). Clonazepam ($t = 5.41$, $p < 0.0001$), divaloprex ($t = 5.09$, $p < 0.0001$), gabapentin ($t = 7.25$, $p < 0.0001$), magnesium ($t = 40.76$, $p < 0.0001$) and phenytoin ($t = 7.58$, $p < 0.0001$) were significantly associated with length of stay while controlling for race, gender, age, severity of illness and admission status. **CONCLUSIONS:** Further analysis should investigate patterns of events associated with increased length of stay in patients taking clonazepam, divaloprex, gabapentin, magnesium, and phenytoin for identification of potential adverse events.

NEUROLOGICAL DISORDERS—Cost Studies

PNL4

COMPARING THE RELATIVE COST-EFFECTIVENESS OF ORAL PROPHYLACTIC MEDICATION VS. BOTULINUM TOXIN TYPE A (BOTOX®) IN THE MANAGEMENT OF MIGRAINE HEADACHE: A MODEL EVALUATING THE CLINICAL AND ECONOMIC IMPACT OF CURRENT TREATMENT OPTIONS

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OBJECTIVES: The oral prophylactic medications currently utilized in the management of migraine headache have been shown to exhibit varying responsiveness in terms of reduction of headache burden. It is the objective of this model to be used as tool to compare the relative cost-effectiveness (CE) of these agents vs. botulinum toxin type A (BOTOX®/BTX-A) from a payer perspective. **METHODS:** An interactive Excel-based model was developed to compare the relative CE of the available oral prophylactic medications vs. BTX-A in the treatment of migraine headache. Drug effectiveness with respect to reduction in headache burden and utilization of acute medications was based on the published literature. Drug costs were based on average wholesale price with consideration of contractual discounts and patient co-payment. The primary economic endpoints were the drug cost per headache (HA) and headache day (HAD) for episodic migraine and chronic migraine respectively. Multi-factor sensitivity analyses were conducted. **RESULTS:** In the management of episodic migraine, the oral prophylactic medications offered a cost per HA avoided varying from US\$48 (divalproex sodium/Depakote®) to US\$138 (gabapentin/Neurontin®). In the management of chronic migraine, BTX-A offered a cost per HAD avoided of US\$17. Total migraine related drug costs (inclusive of both acute and prophylactic medications) were found to be unchanged with the utilization of BTX-A due to the offsetting reduction in acute medication use associated with BTX-A therapy. **CONCLUSION:** Modeling CE in terms of reduction in headache burden provides a methodology for comparing clinical trials and demonstrates that the relative difference in CE between the oral prophylactic medications and BTX-A in the management of migraine headache is significant.

PNL5

ASSESSING ABSOLUTE REDUCTIONS IN CLINICAL EFFECT: A MODEL FOR COMPARING THE COST-EFFECTIVENESS OF DISEASE MODIFYING DRUGS (DMDs) UTILIZED IN THE TREATMENT OF MULTIPLE SCLEROSIS (MS)

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OBJECTIVES: Clinical trials establishing the efficacy of disease modifying drugs (DMDs) utilized in treating relapsing forms of Multiple Sclerosis (MS) have been based on populations of varying baseline relapse rates and disability burden. It is the objective of this model to be used as a tool to compare the relative cost-effectiveness (CE) of these drugs from a payer perspective. **METHODS:** An interactive Excel-based model was developed to compare the relative cost components of relapses, disability progression, and DMDs in the treatment of MS. Drug effectiveness with respect to reduction in relapses and the slowing of disability progression was derived from the published Level I clinical trial data and was based on absolute risk reduction (ARR) in clinical events to account for differences between study populations. Cost data was based on work by O'Brien and colleagues, and disability progression data was based on research by Weinshenker and colleagues. Drug costs were based on